

ABSTRACT

This invention relates to methods for making a stabilized transition alumina of enhanced hydrothermal stability, which include the introduction of at least one structural stabilizer; a steaming step before or after the introduction step, wherein steaming is effective in transforming a transition alumina at least partially to boehmite and/or pseudoboehmite; and a calcining step to create a stabilized transition alumina. The combination of the structural stabilizer and the steaming step is believed to impart high hydrothermal stability to the alumina crystal lattice. Particularly preferred structural stabilizers include boron, cobalt, and zirconium. The stabilized transition alumina is useful as a catalyst support for high water partial pressure environments, and is particularly useful for making a catalyst having improved hydrothermal stability. The invention more specifically discloses Fischer-Tropsch catalysts and processes for the production of hydrocarbons from synthesis gas.